

# TracPhone® V30 Rotary Joint Replacement Instructions



The following instructions explain how to replace the rotary joint in a TracPhone V30 antenna.

*NOTE: Your antenna might have parts that differ from those pictured in this document. Such differences have no bearing on the instructions unless noted otherwise.*

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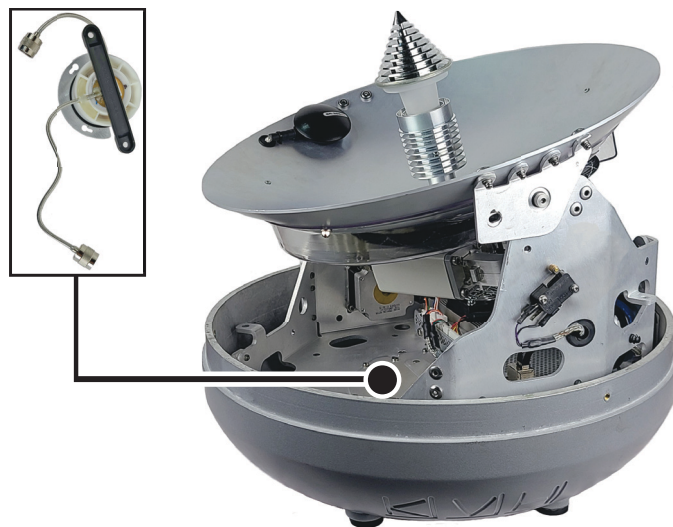
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## Tools Required

This procedure requires the following tools:

- #2 Phillips screwdriver
- Small ratchet driver with T10 Torx bit
- Torque driver set to 9 in-lbs
- Pliers

Figure 1: Rotary Joint



## Technical Support

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## Remove the Radome

Follow the steps below to disconnect power and remove the radome from the antenna.

1. Power off and unplug the VSAT-Hub to disconnect power from the antenna.



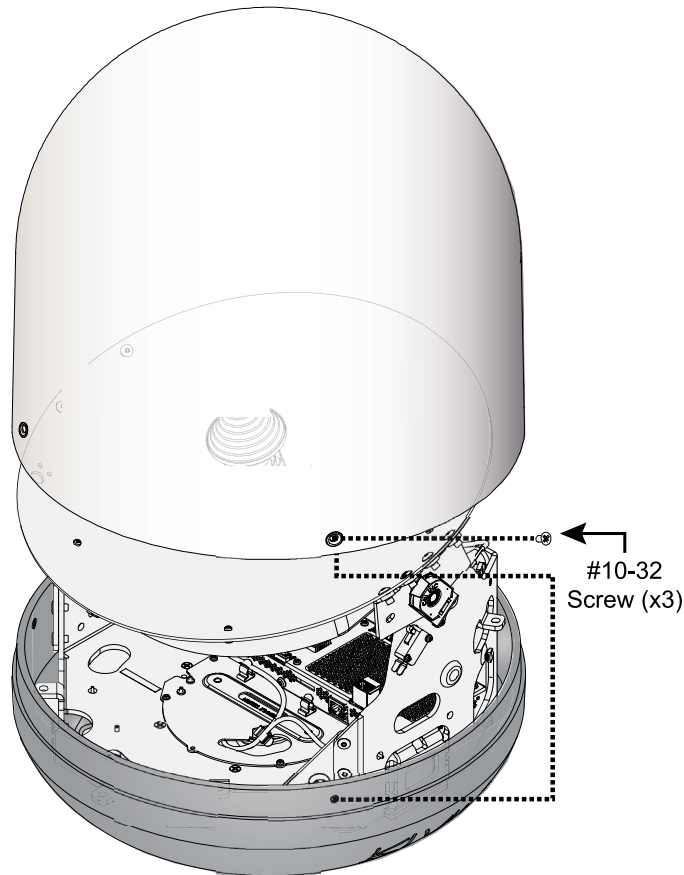
### CAUTION

To prevent injury, be sure to disconnect all power from the antenna before proceeding. Power must remain disconnected for the duration of this procedure.

2. Remove and discard the three #10-32 screws securing the radome to the baseplate (see Figure 2). Carefully lift the radome straight up until clear of the antenna assembly and set it aside in a safe place.

*NOTE: If you keep the radome topside, secure it with a lanyard to prevent it from falling overboard. Also, do not place the radome on a hot steel deck – the heat may warp the radome.*

Figure 2: Radome Screws

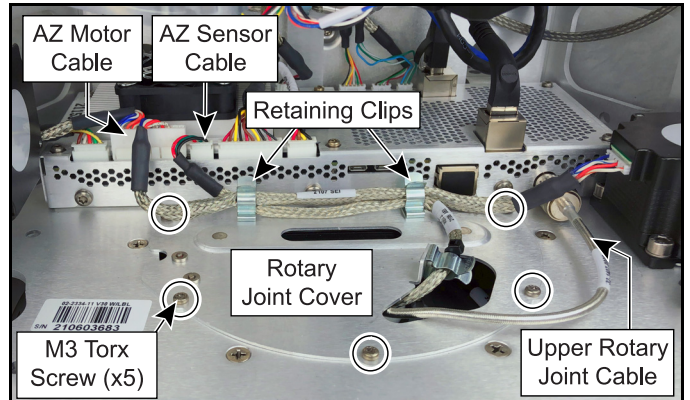


## Replace the Rotary Joint

Follow the steps below to replace the old rotary joint.

1. Disconnect the azimuth (AZ) motor cable and azimuth sensor cable from the main board (see Figure 3). **Be sure to disconnect by grasping the connector body; do not pull on the wires.**

Figure 3: Rotary Joint Cover Screws and AZ Motor/Sensor Cables



2. Carefully extract the two cables from the retaining clips (see Figure 3).

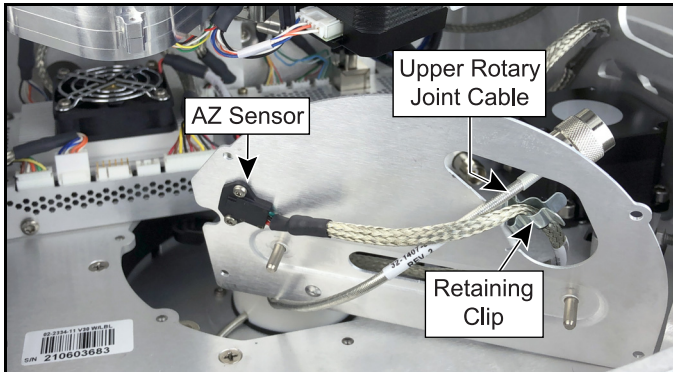
### IMPORTANT!

Handle rotary joint cables with care at all times. To avoid damage, do not kink them; always maintain the minimum bend radius (3/8" (10 mm)).

3. Disconnect the upper rotary joint cable from the main board (see Figure 3).
4. Using a T10 Torx screwdriver, remove and discard the five M3 Torx screws securing the rotary joint cover (see Figure 3).

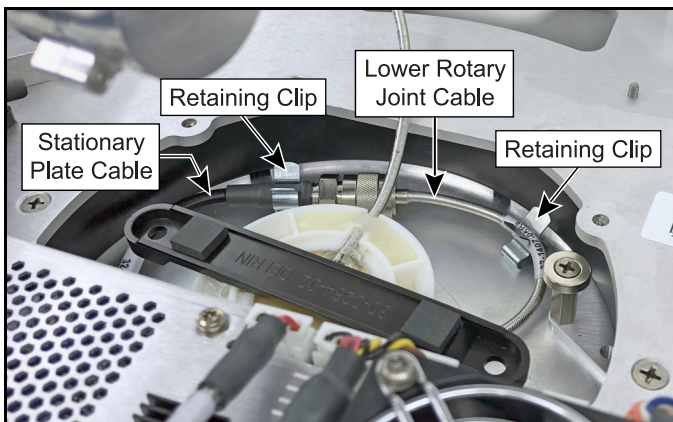
- Remove the rotary joint cover while carefully guiding the upper rotary joint cable out through the opening in the cover (see Figure 4). Extract the AZ sensor cable from the retaining clip to make it easier. **Do not attempt to remove the AZ sensor cable from the cover.** Set aside the cover (with its attached sensor cable).

Figure 4: Rotary Joint Cover Detached



- Extract the lower rotary joint cable and stationary plate cable from the two retaining clips on the stationary plate (see Figure 5).

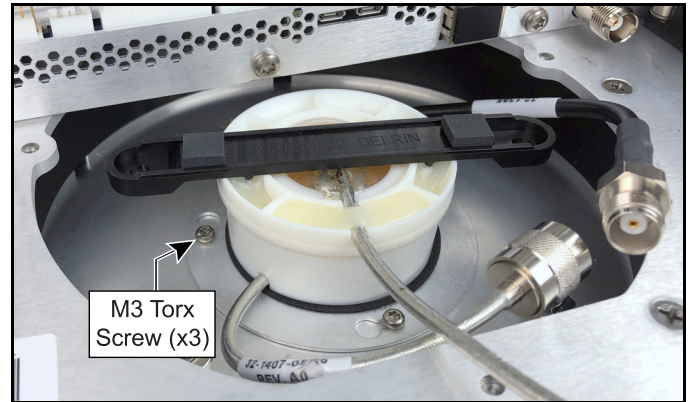
Figure 5: Lower Rotary Joint Cable Connection



- Disconnect the lower rotary joint cable from the stationary plate cable (see Figure 5).

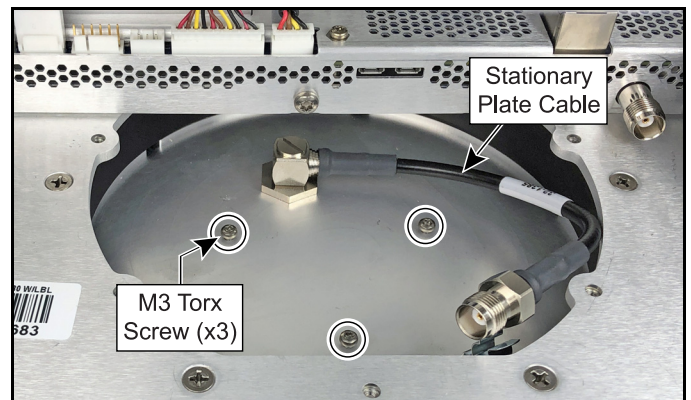
- Using a T10 Torx screwdriver, loosen (do not remove) the three M3 Torx screws securing the rotary joint to the stationary plate (see Figure 6). Then rotate the rotary joint counterclockwise until the wide ends of the slotted openings in its mounting plate align with the mounting screws.

Figure 6: Rotary Joint Mounting Plate



- Remove and discard the old rotary joint.
- Place the new rotary joint onto the stationary plate and align the wide ends of the three slotted openings in its mounting plate with the three mounting screws on the stationary plate (see Figure 7). The rotary joint's mounting plate should be flush with the stationary plate.

Figure 7: Rotary Joint Mounting Screws



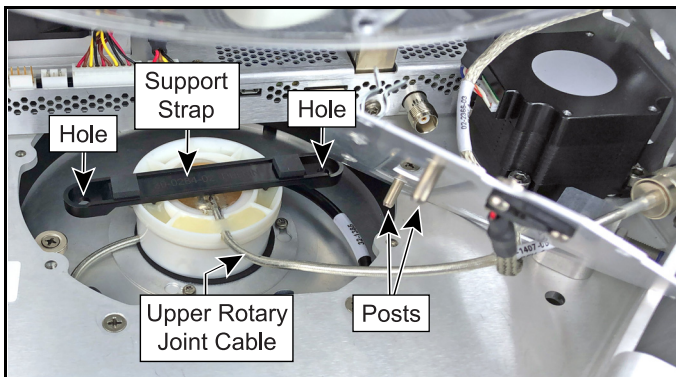
- Rotate the rotary joint clockwise to capture the screws in the narrow ends of the three slotted openings in its mounting plate (see Figure 6). Then tighten the screws to 9 in-lbs of torque to secure the rotary joint in place.
- Apply some silicone grease inside the connector of the lower rotary joint cable and connect it to the stationary plate cable (see Figure 5). Hand-tighten.
- Secure the lower rotary joint cable and stationary plate cable in the retaining clips (see Figure 5).

14. Carefully feed the upper rotary joint cable under the AZ sensor cable and through the opening in the rotary joint cover (see [Figure 4 on page 3](#)).
15. Secure the AZ sensor cable in the retaining clip on the rotary joint cover (see [Figure 4 on page 3](#)).
16. Make sure the rotary joint's support strap is parallel with the main board. Then position the rotary joint cover so that its two posts engage the holes in the rotary joint's support strap (see [Figure 8](#)). The support strap should now be aligned with the oval cutout in the rotary joint cover.

22. Reinstall the radome onto the antenna and secure it with three new #10-32 screws (*supplied in kit*). Tighten the screws to 5 in-lbs of torque.
23. Reconnect power to the VSAT-Hub.
24. Test the system for normal operation. If the problem persists, contact KVH Technical Support.

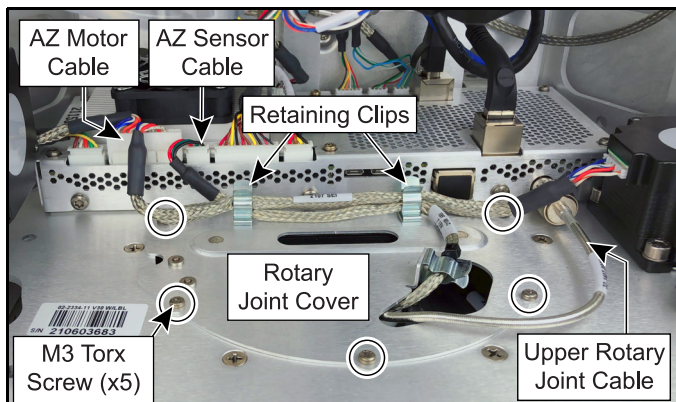
The replacement procedure is complete!

**Figure 8: Securing the Support Strap to the Rotary Joint Cover**



17. Secure the rotary joint cover to the antenna frame using five new M3 Torx screws (T10) (*supplied in kit*) (see [Figure 9](#)). Tighten the screws to 9 in-lbs of torque.

**Figure 9: Rotary Joint Cover Screws and AZ Motor/Sensor Cables**



18. Apply some silicone grease inside the connector of the upper rotary joint cable and connect it to the main board (see [Figure 9](#)).
19. Reconnect the AZ motor cable and AZ sensor cable to the main board (see [Figure 9](#)).
20. Secure the AZ motor cable and AZ sensor cable in the two retaining clips (see [Figure 9](#)).
21. Inspect the inside of the antenna to make sure you have not left any tools inside.